MARSHALL STAR

Marshall Space Flight Center — *April 26, 2001*

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First commercial experiments being delivered to Space Station

by Tracy McMahan

Private industry is investing more corporate money than ever to explore the benefits of doing business in space — including the first commercial experiments to be delivered to the International Space Station this week.

These experiments were launched into orbit April 19 on the Space Shuttle Endeavour on the STS-100 mission. On Tuesday, the Expedition Two crew moved the first two EXPRESS experiment racks from the Raffaello logistics module to the Destiny laboratory module. The EXPRESS racks and the Raffaello module are managed by Marshall's Flight Projects Directorate.

Wednesday the crew activated the new racks, aided by controllers from Marshall's Payload Operations Center.

After the Shuttle leaves, the Space Station Expedition Two crew will set up the three commercial payloads and begin experiments. These experiments will remain on board the Station until the end of Expedition Two, at the end of July, when the Space Shuttle will pick them back up and return them to Earth.

The three experiments slated for Space Station Expedition Two are exploring areas of the fast-growing fields of biotechnology and agriculture. One experiment will grow the first plants aboard the Space Station. Another will

*See **Experiments** on page 4*

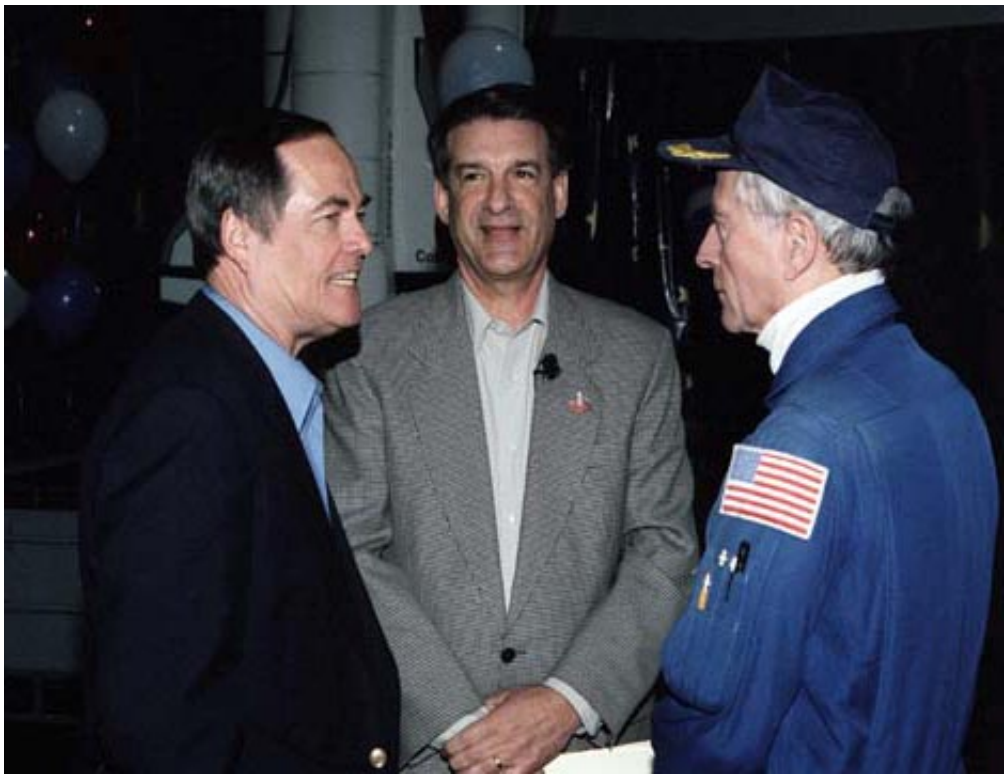

Photo by Terry Leibold, NASA/Marshall Space Flight Center

STS-1

Marshall Center marks 20th anniversary

STS-1 Pilot Bob Crippen, left, and Commander John Young, right, talk with Center Director Art Stephenson prior to the start of Tuesday's Marshall ceremony marking the 20th anniversary of the flight of STS-1. For story, see page 2.

Marshall celebrates first Shuttle launch

On Tuesday, the Marshall Center celebrated the 20th anniversary of the first Space Shuttle flight on April 12, 1981. On hand for the occasion were STS-1 Commander John Young and Pilot Robert Crippen.

The celebration included the astronauts signing a Space Shuttle Main Engine that is planned for permanent display at Marshall, and the casting of footprints for the "Footprints to the Future" display in the Bldg. 4200 complex.

Young saluted the Marshall workforce who worked so hard to get the job done, and paid close attention to all the details. He recalled a story of worrying about the Shuttle tiles falling off during re-entry and how when the Shuttle landed, he walked around shaking his fist looking for tiles that had fallen off.

Crippen said that first Shuttle flight was probably the most exciting time of his life. "When I got nominated for the flight, and John Young accepted me, it was very exciting," he said. "Thousands of people made that first flight happen, and we should all be very proud."

"The 20th Anniversary of STS-1 is a tribute to the entire workforce," said Center Director Art Stephenson. "From the astronauts to the engineers, from the accounting office to the graphic artists — ALL played a vital role in the success of STS-1.

"Even before the end of the Apollo era, the Nixon administration pushed forward to make sure the United States maintained its preeminence in space," Stephenson said. "With the blessings of the Administration, the Agency pushed forward.

"Those who worked in the space program knew that Apollo wasn't the end — it was just the beginning. STS-1 has been called a "chapter that ushered in a new era in human space flight. Not only did we launch the first Shuttle — we launched hope for the future — and a way to find answers.

"Marshall is committed to safety, reliability and lowering the cost of access to space. This commitment governs our success. As we celebrate 20 years of Space Shuttle missions, we anticipate many, many more to come," Stephenson said.

*See **STS-1** on page 4*

John Young, right, signs the plaque that will accompany the Space Shuttle Main Engine display, while Bob Crippen waits for his turn to sign.

Former Marshall Center directors join current Center Director Art Stephenson for the event. From left are Dr. Wayne Littles, Dr. William Lucas, Jack Lee, Porter Bridwell and Stephenson.

Photos by Terry Leibold, NASA/Marshall Space Flight Center

Nine Marshall employees selected for NASA fellowships

NASA Headquarters has announced the selections for the 2001 NASA Fellowship Programs. Marshall received nine of the 48 selections Agency-wide.

Those selected were Peter W. Allen, Facilities Engineering Department, for the Penn State University Developing Managerial Effectiveness Program; David K. Bates, Office of Chief Financial Officer, for the Harvard University Senior Managers in Government Program; Robert H. Champion, Jr., Internal Relations and Communications Department, for the UCLA Creativity and Innovation in the Organization Program; Thomas F. Fleming, Science Directorate, for the Federal Executive Institute Leadership for a Democratic Society Program; James R. Frees, Office of Chief Counsel, for the Harvard University Senior Executive Fellows Program; Roy W. Malone, Logistics Services Department, for the Harvard University Program for Management Development; Jody A. Singer, Space Shuttle Projects Office, for the Penn State University Leading with Impact Program; James E. Turner, Subsystem and Component Development Department, for the University of Texas at Austin Institute for Managerial Leadership; and Debrah B. Underwood, Payload Operations and Integration Department, for the Simmons Strategic Leadership for Women Program.

The NASA Fellowships are highly competitive and selection is based on leadership and management ability as well as work experience and achievements. Candidates complete a rigorous paper nomination and may have personal interviews with the selection panel members. The selection panel is comprised of management representatives from across NASA.


Allen


Bates


Champion


Fleming


Frees


Malone


Singer


Turner


Underwood

Change Readiness Survey leads to program success

from the Core Financial Project

Beginning this week, Marshall employees may participate in a Change Readiness Survey sponsored by the Integrated Financial Management Program.

Marshall is the Program's Lead Center for the Core Financial Project, scheduled for implementation in June 2002. Assessing readiness for change now, and working to increase that readiness, better ensures Integrated Financial Management Program implementation success.

"As the Core Financial Lead Center, it is critical to our success to understand employee beliefs, feelings and perceptions about the program," said Kathey Nabors, the project's Change Management co-lead.

"The Change Readiness Survey will help us gather that information and improve program delivery by addressing your concerns," Nabors said. Results of the survey will be used to direct and improve communication, training and other performance support between now and the time of implementation.

The survey will be delivered in hard copy format, and responses will be anonymous.

For information on the Integrated Financial Management Program and the Core Financial Project, visit their Web sites at:
http://www.ifmp.nasa.gov
http://www.corefinancial.ifmp.nasa.gov

For questions on the survey, contact Nabors at:
katherine.nabors@msfc.nasa.gov

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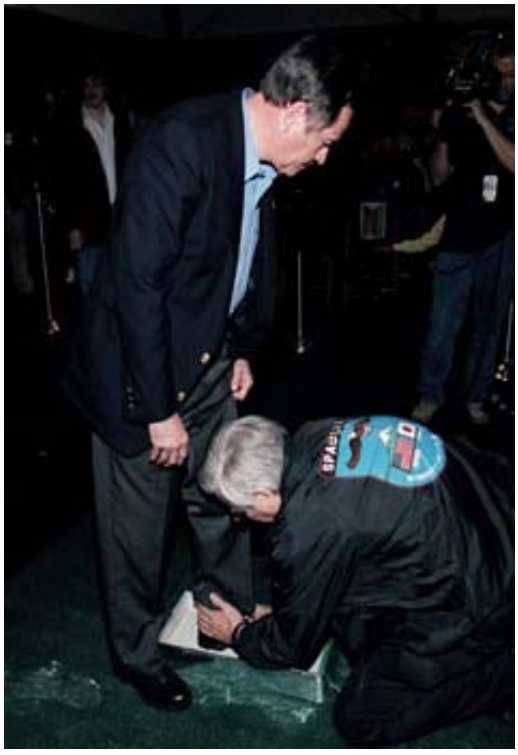
Shuttle facts

For the past 20 years, the Shuttle fleet has amassed an amazing list of accomplishments:

• It has launched 3 million pounds of cargo.
• It has transported more than 600 passengers and pilots.
• The Shuttle fleet has cumulatively spent more than three years in flight.
• The fleet has amassed more than 15 years of passenger-hours in space.
• More than 850 payloads have flown, including hundreds of individual experiments.
• Shuttle has deployed more than 60 payloads and retrieved more than two dozen.
• Shuttle has traveled more than 366 million miles.
• Shuttle has completed more than 14,000 orbits of Earth.
• To date, there are more than 1,300 related technologies that have come from the Shuttle program — technologies that have improved life on Earth
• Because of continuous improvements throughout the program's history, today's Shuttle is safer, more capable and more reliable than when it was new.
• The Shuttle main engines have had three major redesigns since they first flew — increasing the estimates of their safety threefold.
• The third of these redesigns — the Block II — is slated to fly in June.
• Marshall doesn't stop there — a fourth overhaul of the engines is planned.
• During the last 20 years, the safety of every major component of the Shuttle has been increased.
• The weight reductions in the external tank have improved Shuttle's cargo capabilities.
• Because of performance enhancements and weight reductions in other areas, the Shuttle today can lift almost 12 tons more cargo to orbit than when it first flew.
• More Shuttle upgrades are now in development for some of the highest risk systems.



Above: Center Director Art Stephenson, center, presents mementos to the STS-1 crew: Bob Crippen, left, and John Young, right.

John Young, left, and Bob Crippen, right, cast footprints for Marshall's "Footprints to the Future" display in the Bldg. 4200 courtyard.

Experiments

Continued from page 1

look at why antibiotic production by microbes is enhanced in microgravity. A third carries more than 1,000 biological solutions — many of them sponsored by pharmaceutical companies — that will be crystallized in space and returned to the companies for analysis on Earth. The studies are managed by the Marshall Center — NASA's lead Center for microgravity research.

NASA's commercial partners have been busy preparing for the flight. During the mission, some of them will work in new remote control centers set up with NASA's help. From these ground control centers, students, teachers and industry partners will be able to communicate with the crew and send commands to their experiments on the Space Station — 233 miles above Earth. Investigators at these telescience centers are can talk with the crew and send experiment commands through NASA's Payload Operations Center at the Marshall Center.

"Industry investment in space is at an all time high," said Mark Nall, manager of NASA's Space Product Development Program at the Marshall Center. "We assist companies developing experiments and help them explore how space research can contribute to the growth of their business."

Industry funds the research, pays for a portion of launch costs and brings resulting products or services to market. Because a company pays for the research, it has the opportunity to commercialize products that may be developed as a result of the research.

Bristol-Myers Squibb — a New York-based international pharmaceutical company — is sponsoring the antibiotic experiments being conducted in the Commercial Generic Bioprocessing Apparatus (CGBA) during Expedition Two. These experiments study the effects of microgravity — the near weightless environment inside an orbiting spacecraft — on bacterial growth processes used to produce medicines.

To fly the experiment in space, Bristol-Myers Squibb works with one of NASA's Commercial Space Centers — BioServe Space Technologies at the University of Colorado in Boulder. BioServe built the Commercial Generic Bioprocessing Apparatus, which has been flown on several Shuttle missions. BioServe set up and opened a remote ground control site for monitoring experiments and collecting data at the University of Colorado.

NASA has helped establish Commercial Space Centers, like BioServe, with specialized areas of technical expertise. These centers are located across the United States. Eleven of them are managed by the Space Product Development Program, are jointly funded by NASA, industry and academia, and must meet stringent review requirements for commercial space flight research

Another experiment being delivered to the Space Station this week — the ADVANCED ASTROCULTURE — will allow companies interested in agriculture and agribusiness to conduct long-term plant research. Starting with Space Station Expedition Two, industry will be able to grow plants in space over an entire life cycle — from seeds to plants to seeds.

For the Expedition Two experiment, scientists will grow Arabidopsis, a member of the Brassica plant family that includes cabbage and radishes. The Space Station provides an ideal laboratory for growing plants and studying the influence gravity has played as plants evolved on Earth.

Space Explorers Inc. of De Pere, Wis. is the commercial partner for this experiment. The company will use data from the experiment to develop the commercial curricula called Orbital Laboratory. This Internet-based multimedia software program allows students to design, conduct and analyze a Space Station experiment.

The ADVANCED ASTROCULTURE was built by the Wisconsin Center for Space Automation and Robotics (WCSAR), a NASA Commercial Space Center located at the University of Wisconsin-Madison. It will be monitored and operated by scientists and engineers working at a remote ground center at the University of Wisconsin-Madison.

*See **Experiments** on page 10*

Technicians at Kennedy Space Center, Fla., prepare EXPRESS Racks 1 and 2 for launch on STS-100. Endeavour delivered the racks — built at the Marshall Center and managed by the Flight Projects Directorate — to the International Space Station.

Photo by Emmett Given, NASA/Marshall Space Flight Center

Gravity Probe B

Sasha Buchman, of Stanford University in Stanford, Calif., standing, discusses the status of tests now being performed on the Gravity Probe B spacecraft this week at Marshall. The experiment, developed at Stanford and managed by the Science Directorate at Marshall, is designed to prove or disprove Einstein's General Theory of Relativity by measuring the effect that motion between Earth and the spacecraft has on space and time. The mission is tentatively planned for launch in late 2002.

NASA, Italian Space Agency sign Space Station agreement

NASA/ASI release

NASA and the Italian Space Agency (ASI) have announced their agreement on the framework of a potential bilateral cooperative agreement that could result in ASI development of a U.S. Habitation Module for the International Space Station.

This agreement allows the United States to explore an alternative approach to achieve full crew habitation for the Space Station within the constructs of the President's FY2002 budget blueprint guidance and budget run out.

The Habitation Module which was to house crew quarters and other essential habitability functions for three to four additional Space Station crew was considered a high cost-risk element, and as such, its funding was redirected to address cost challenges in maintaining the core U.S. assembly elements and high priority ISS objectives.

This cooperative proposal will be part of NASA's ongoing program assessment, which includes possible decisions to develop and deploy U.S. elements or enhancements beyond completion of the U.S. core, within available funding. Successful restoration of a habitation capability for six or more crew would significantly increase the availability of crew time to conduct important research.

NASA and ASI are discussing launch services, additional Space Shuttle and Space Station astronaut crew opportunities and assignments, Space Station utilization, and increased visibility for the Italian role in the Space Station partnership as possible consideration for Italy. Any increase in U.S. research utilization to be provided to ASI would be enabled through the increased capabilities realized through the provision of habitation for an expanded crew complement.

A Memorandum of Understanding (MOU) between NASA and ASI will be required to formally document NASA and ASI's respective responsibilities in a legally binding document.

Job Opportunities

CPP-01-029-JB, Management Support Assistant (3 vacancies), GS-303-07. Closes May 4. Space Transportation Directorate (1 vacancy) Center Operations Directorate (2 vacancies)

Sports

Golf

Upcoming golf tournaments include a two-person best score tournament to be played at 7 a.m. May 19 at Guntersville State Park. Entry deadline is May 11. A two-person best score tournament will be played at 8 a.m. June 16 at Chesley Oaks. Entry deadline is June 8. If you do not have a partner, call in to enter as early as possible and the tournament director will team you up with another single entrant. The entry fee for each tournament is $5. Enter by calling Lee Foster at 544-1589, Joey Butler at 544-3808 or Robert Rutherford at 544-8117.

Marshall Center, AMCOM, SMDC collaborate on technology fair

by Jonathan Baggs

Three federal agencies will join forces with industry and academia for a two-day conference next month to foster teamwork and collaboration to meet a critical need: drawing and retaining young engineers and scientists to the Huntsville area.

The first Education and Employment for Technological Excellence in Aviation, Missiles, and Space (E^2-TEAMS) conference will be May 15 and 16 at the Von Braun Center. Exhibits open each day of the conference at 9 a.m.

A key goal of the E^2-TEAMS concept is to encourage research colleges and universities from a four-state area — Alabama, Mississippi, Tennessee and Georgia — to partner with industry and government to build a "high-tech corridor" in the region.

Supporting the event are the U.S. Army Aviation and Missile Command (AMCOM), the Marshall Center, the U.S. Army Space and Missile Defense Command (SMDC), the Huntsville-Madison County Chamber of Commerce, Huntsville Association of Technical Societies (HATS) and the National Space Science and Technology Center.

"I'm firmly behind E^2-TEAMS because it's a unique opportunity to join with our regional partners in industry and academia to address a critical challenge — attracting and keeping the best talent available," said Marshall Center Director Art Stephenson.

Besides highlighting Huntsville's technological excellence, the event will address future research and technology needs. It also will promote educational opportunities and workforce development initiatives for engineers, scientists and students.

Bill Gurley, senior vice president with Science Applications International Corp. and chairman of the event, said the technology fair will emphasize efforts to showcase the Huntsville area and attract young high-tech workers and graduates.

To encourage participation by colleges and universities, AMCOM, Marshall and SMDC will jointly offer up to $1 million in grant money. This money will be awarded competitively to participating research colleges in the targeted four-state area prior to next year's conference.

Government agencies hosting the event will focus on future technological needs through panel discussions in four cutting-edge areas — Advanced Propulsion and Hypersonic Systems, Robotics, Novel Power Sources, and Broad Spectrum Vision Sensors.

Numerous companies and universities will participate with displays and exhibits. Human resource personnel will be on hand to discuss employment and career opportunities.

The North Alabama Aerospace Teachers Association will host a discussion of space and science projects, including the "Astro Bowl" competition for middle and high school students. Projects to enhance science and technology education for K-12 students also will be discussed by the Education Directorate of the Huntsville Association of Technical Societies.

The writer, employed by ASRI, supports the Media Relations Department.

Photo by Emmett Given, NASA/Marshall Space Flight Center

'This is how it works ...'

Gene Beam, center, of marshall's Space Transportation Directorate, discusses space thrust structure with Melissa Britto, right, and Jeff Lambert of San Clemente, Calif., High School during the Earth to Orbit Symposium held April 20 at Marshall.

NASA pitches business opportunities in Muscle Shoals

Photos by Terry Leibold, NASA/Marshall Space Flight Center

Business and industry leaders, contractors and interested small businesses attend the showcase.

Small businesses in North Alabama would love to tap into the $417 million the Marshall Center plans to spend on contracts this year. To help them, Marshall's Small Business Office and the Muscle Shoals Chamber of Commerce co-sponsored a daylong Small Business and Industry Incentive Showcase April 5.

The purpose of the showcase was to prove to small business owners in the Shoals that NASA means business, and not just with aerospace companies. It was the first time Marshall had a seminar targeted at a specific community. Similar showcases are being planned for southern Tennessee and Birmingham.

"We are recruiting additional members for the NASA team," said Center Deputy Director Jim Kennedy.

"I can't tell you how happy we are to have these people here," said Steve Holt, Shoals Chamber of Commerce president. "This is an opportunity for the lagging Shoals economy to get a shot in the arm."

Exhibits showcase NASA prime contractors and the types of work done at the Marshall Center.

The event, co-coordinated by Joseph Derell Hobson of Marshall's Procurement Office and Rosa Kilpatrick of the Customer and Employee Relations Directorate, included seminar sessions, an overview of future incentives, a summit with several space industry executives, more than 20 prime contractor booths and a community reception with Marshall astronaut Dr. Fred Leslie.

Earls

David Castle, a student at Bradshaw High School in Florence, opened the showcase with the Star Spangled Banner. Hibbett Middle School choir, directed by Kay Davis of Florence, performed at the closing reception.

Dr. Julian Earls, deputy director of the John H. Glenn Research Center in Cleveland, spoke at the luncheon. He spoke on "The Small Business Imperative: Persistence."

Dr. Fred Leslie, a payload specialist on Space Shuttle mission STS-73, signs autographs at the reception.

At left: From left are Joseph D. Hobson, co-coordinator of the Muscle Shoals event; Marshall Center Deputy Director Jim Kennedy; Steve Beale, director of Marshall's Procurement Office; Dr. Fred Leslie, STS-73 payload specialist; Stephen Beale, president of the Shoals Chamber of Commerce; Joann Maxwell, Shoals Chamber executive coordinator; Stanley McCall, Marshall's Small Business and Industry Assistance Officer; and Willie Love, acting director of Marshall's Equal Opportunity Office.

Loria West takes 'FAST' track to high-tech world of NASA's Space Shuttle

by Lynnette Madison

Growing up in rural Morgan County, Ala., Loria West never dreamed she would be part of the fast-paced, high-tech world of NASA. After all, she wasn't interested in science or engineering.

But last September, West found herself at Kennedy Space Center, Fla., preparing for the launch of U.S. Space Shuttle Atlantis on Mission STS-106.

West joined the Marshall Center workforce as a summer intern in 1995 with the Future Assets Student Talent (FAST) program. FAST — sponsored by Alabama A&M University in Huntsville, the Alabama Department of Rehabilitation Services and NASA — is aimed at placing disabled high school and college students in temporary summer jobs.

"I just couldn't believe I was in the heart of it," said West, a management support assistant in the Space Shuttle Projects Office at the Marshall Center. "I grew up hearing about NASA, but I always related it to rockets. I never thought I would be part of it." Marshall Center employees — including support personnel — assist at every Shuttle launch.

West has worked for the Shuttle Office for the past five years.

When her summer with FAST ended, the Shuttle Office hired her as a temporary employee while she completed her business administration degree — with a concentration in human resources — at Athens State University in Athens, Ala. She is also a graduate of Calhoun Community College in Decatur, Ala.

Photo by Emmett Given, NASA/Marshall Space Flight Center

FAST program graduate Loria West, seated, prepares for immersion into "Virtual World" at Marshall's Army/NASA Virtual Innovation Lab. University of Alabama in Huntsville co-op student Samantha Estes assists.

West joined Marshall's civil service team in August 2000 as a management support assistant.

It's not unusual to find her sitting at a desk other than her own. She served as a "floater" — volunteering to fill in at other offices and gain more experience.

"I like being part of the Space Shuttle's success," said West. Her responsibilities include coordinating travel arrangements for Shuttle Project Office managers, tracking the Shuttle travel budget and serving as the training coordinator for approximately 200 people.

West has never been one to accept limits. At 9, she was severely injured when her family's car was hit head-on by a driver who had fallen asleep at the wheel. Her parents, James and Diane West, were killed and West suffered numerous injuries, including a broken back. Her two brothers had less severe injuries.

West spent five months in Birmingham, Ala., hospitals before she was able to join her brothers at the home of her aunt and uncle, Rhonda and Billy West of Trinity, Ala.

"Yes, I have a wheelchair, but I've led a normal life," says West, now 28. "My family has always encouraged me to be independent."

West is a graduate of West Morgan High School. She and her daughter, Gabrielle, live in Decatur.

The writer, employed by ASRI, supports the Media Relations Department.

Safety, Health and Environmental panels

What are the 'Area' and 'Central' committees?

from Marshall's Safety Office

The two occupational safety and health committees "Area" and "Central" have been created to monitor and assist in Marshall's safety and health program.

Committee members meet monthly and anyone — room permitting — can attend. Both committees help maintain an open channel of communications between employees and management concerning safety and health matters in the workplace.

Central Committee

The Central Safety, Health and Environmental Committee is Marshall's top-level safety organization and is chaired by Center Director Art Stephenson. Members include his direct reports, union representative, Medical Center director, Contractor Safety Forum chairperson, and Marshall Safety Action Team chairperson. Contractors are encouraged to have representation at the Central Committee meeting.

The committee provides a forum for discussion and a channel for input to Center management on occupational safety, health and environmental issues. It serves as the Center organizational committee for formulation, approval and implementation for the Safety, Health and Enviornmental policy.

Several subcommittees exist within the Central committee. Subcommittee members initiate and/or review safety, health and environmental policy and resolve safety, health and environmental problems for all Marshall facilities. They also ensure that line organizations implement the policy. They review mishap investigations, safety concerns and close calls.

The Central Safety, Health and Environmental Committee has worked numerous issues/concerns regarding safety — for example, developing guidelines for use of ladders, mini-motor scooters, and moving furniture at Marshall; and developing a Safety, Health and Environmental document tree for Center employees. Creation of the Marshall Safety and Health Action Team and the Contractor Safety Forum were a direct result of the Central Committee. The Contractor Safety Forum meets monthly and Marshall Safety Action Team every other week. Both groups are an integral part of the safety program at Marshall.

Area Committee

The Area Safety, Health and Environmental Committee is chaired by Associate Director Axel Roth. Its meeting precedes the Central Committee meeting and is attended by Area building managers and the Marshall Safety Action Team chairperson. Members establish and administer an area/building manager program, act as an advisory committee in support of the Safety, Health and Environmental Central Committee, and resolve related problems across all Marshall facilities.

Other Center safety issues that can't be resolved at lower levels are brought to this meeting. Many issues/concerns have been worked and closed since its inception. One particular problem resolved during 2000 involved smoking at Marshall. The Area Safety, Health and Environmental Committee changed Center policy to assign building managers responsibility for smoking issues in their respective building. Several complaints involving locations where employees were exposed to excessive smoke were resolved.

The committee also has requested revisions on several documents at Marshall — for example, MPG 1840.3, MSFC Hazardous Chemicals in Laboratories Protection Program" to require the use of protective covers or coating for glass bottles that store acid, and MPG 8715.4, "Personal Protective Equipment" requiring the use of fixed side-shields on prescription safety glasses.

The Area Committee also initiated the campaign to clean up Marshall before the Open House. Issues that cannot be resolved at this level move forward to the Central Safety, Health and Environmental Committee meeting.

For detaileds on the activities of these committees, including open and closed actions, visit the SHE Committees Home Page at:
http://msfcsma3.msfc.nasa.gov/she/index.html

A copy of the charter is at the site.

Experiments

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The third Expedition Two commercial experiment is the Commercial Protein Crystal Growth — High Density experiment sponsored by the Center for Biophysical Sciences and Engineering at the University of Alabama at Birmingham. This facility holds 1,008 individual experiments sponsored by numerous investigators from a variety of companies. Previous Shuttle hardware contained only 128 samples.

The ability to carry more samples is crucial to investigating the conditions that encourage these biological solutions to form crystals. If the crystals form in an orderly fashion, their structure can be analyzed on Earth. By determining the structure of these biological substances, scientists can learn how they work in humans, animals and plants, including what roles they play in diseases.

The writer, employed by ASRI, supports the Media Relations Department.

Center Announcements

Public Service Recognition Week

Jim Kennedy, Marshall Center deputy director, will speak at the Public Service Recognition Week luncheon at noon May 9 at the Huntsville Marriott. Tickets — at $17 each — are available from admin officers. This event is being coordinated by Madison area public servants and is being coordinated for the Marshall Center by the Government and Community Relations Department. For more information, call Rosa Kilpatrick at 544-0042.

ASEM conference

The American Society for Engineering Management (ASEM) will hold its 2001 conference Oct. 11-13 at the Huntsville Marriott. Abstracts on research results, instructional issues, work in progress, research proposals, and case studies are solicited. Due dates and specifics are available on the conference Web site at:
http://www.engineering-management.org
or *http://www.asem.com*
For more information, call at 544-3645.

Clubs and Meetings

Advanced Propulsion lecture

The National Space Society will present "Advanced Propulsion Concepts for Outer Planet and Interstellar Travel" from 7-8:30 p.m. May 3 at the Huntsville/Madison County Public Library. Dr. Travis S. Taylor, principle investigator of advanced projects at Teledyne Brown Engineering, will discuss topics such as solar/laser sailing and nuclear electric propulsion concepts to the possibility of warp drive. The event is free and open to the public. For more information, call Ron Lajoie at 461-5934 or 721-1083.

Instrumentation Division meets

Members and friends of the Measuring Branch, Telemetry Branch and Radio Frequency Branch are invited to meet the first Tuesday of each month at 11 a.m. at the Redstone Golf Club Coffee Shop. For more information, call Tom Escue at (256) 232-1549.

Interested in a motorcycle driver safety course?

A survey is being taken to determine how many people would be interested in a free Motorcycle Driver Safety Course. The Alabama Traffic Safety Center offers an "Experienced Rider Course" for those who have been riding for at least one year. The course offers an opportunity to discuss motorcycling strategies with other riders and sharpen your cornering, braking and emergency maneuvering skills.

Riders need to bring a valid driver's license with motorcycle endorsement, and provide a street-legal motorcycle that must pass an inspection by the instructor. Motorcycles must be properly insured. For riding, you would need a helmet, long sleeves and pants, full-fingered gloves, eye protection, boots or shoes that cover the ankles, and rain gear if the weather is threatening.

If interested, send an e-mail to *judy.milburn@msfc.nasa.gov* with your name, organization, and phone number.

Celebrating Earth Day

Photos by Terry Leibold, NASA/Marshall Space Flight Center

Marshall team members receive Japanese Red Maple saplings as part of the Earth Day activities.

Planting a tree in honor of Earth Day 2001 April 19 are, from left, Marshall Center Deputy Director Jim Kennedy, from left; Kristen Fletcher, director of the Mississippi/ Alabama Sea Grant Legal Program at the University of Mississippi; Rebecca McCaleb, manager of Marshall's Environmental Engineering Department; and Pete Allen, manager of Marshall's Facilities Engineering Department.

Employee Ads

Miscellaneous

★ Nordic Trac Dual Motion Nordic Rider exercise machine, $75. 851-0893
★ Troy built tiller, 8HP, electric start, $650; radial arm saw, 5HP, industrial, $975. 852-2044
★ Valhalla Memory Gardens , one companion crypt, in Bldg. A, Section A, choir level. 881-0457
★ Pair of young canaries, male and female, w/ cage, $100. 534-5653
★ Marquis diamond ring, 1/2 carat, white gold, $600 obo. 461-7154
★ Kawasaki JS550 stand-up jet ski, needs paint and starter repaired, $400. 230-6382
★ Gold's home gym/weights, $200; sofa, 3-cushion length, wood feet, $175. 464-3300
★ Cannon laptop computer, DX4/100, internal floppy, PCMCIA modem, external CD ROM, Windows & Office 95, $165. 837-0625
★ Mount Vernon mahogany tea table by Hickory Chair. 882-1097
★ Patio furniture, 4 chairs, table, umbrella, $100. 882-2654
★ Two Michelin tires, P195/75/R14, $60. 830-0854
★ Motorola Gold Series high power cellular phone, 3-watt, w/bag, accessories, instructions, $50 firm. 534-2368
★ This-End-Up girl's whitewashed oak bed and 5-drawer dresser, $400. 430-0421
★ Spectrum pontoon, 24', $5,000 obo. 722-9989
★ 1999 XR100R dirt bike, less than 100 miles, $1,895. 256-586-7394
★ Kenmore washer, $15. 830-9507 after 5 p.m.
★ 1986 Polarcraft boat, 17', whitewater trailer, 55HP Suzuki, live well, trolling motor, aluminum, $3,200. 881-6143
★ John Deere 21S string trimmer, $125; HP 400mhz pc, $375; cherry dining table, $145. 961-7727
★ 1989 Wellcraft 192 Classic, cuddy cabin, 4.3L V6 Mercruiser, 450 hours, dry stored, $6,500. 797-6173
★ 1998 Coleman Seapine pop-up camper, 12' box, ac/refrigerator/awning, sleeps 6-8, $5,300 obo. 653-3625
★ Pair of Latin Percussion Congas, $649, 881-0755.
★ American Racing Classic five-spoke chrome wheels, 15x8, 4.5" pattern with Dunlop 265-50 tires, plus two additional tires, $500. 325-1961.
★ White 3-drawer dresser/changing table $125. Bearded Dragon lizard w/accessories, $250. 922-9387
★ Natural wood futon sofa, $175; queen mattress/box springs, $200: two matching end tables, $30, 256-772-0562.
★ Little Tykes kitchen w/accessories $20; Little Tykes vanity $8; Fisher-Price washing machine $8. 828-4502.
★ 12 ft. aluminum boat, 10 HP. Johnson outboard, trailer, $425. 931-455-2465

Vehicles

★ 1995 Honda EX, 89K miles, white, 5-speed, new tires, keyless entry, 4-door, $9,895. 582-5210
★ Polaris Sport 400 ATV, rear and front racks, trailer hitch and DC outlet, $2,500. 230-6382
★ 1986 Ford Bronco II, red/tan, V-6, 4WD, auto, 211K miles, $1,500 obo. 722-8570
★ 1993 Hyundai, S-coupe, 2-door, red, 64,400 miles, new radiator, $1,200. 355-5329
★ 1999 Mercury Cougar, red, auto, p/w, keyless entry, 27K miles, $12,500 obo. 772-1821
★ 1992 Toyota 4-Runner, new transmission, new tires, 117K miles, $9,700. 426-7446
★ 1996 Ford Windstar, 31K miles, white, front/rear a/c, handicapped ramp, hand-controls, auto lock down for wheelchair, $25,500. 852-7828
★ 1993 Dodge Grand Caravan SE, one-owner, many new parts, service records available, $4,995 obo. 895-9520
★ 1989 Buick Park Avenue, low mileage, many power options, $3,400. 534-7791
★ 2000 Honda Accord EX, 5-speed, silver, all-power, alloy wheels, CD, keyless, alarm, a/c, 14K miles, $17,195. 922-1508
★ 1996 Chevrolet Blazer 4WD, automatic, a/c, LT pkg. leather, CD, 60K miles, dk. Green. $12,500
★ 1982 Allegro 27" motorhome, new tires/ beauty rims, sleeps 8, 6.5K Onan generator, gas grill, microwave, vacuum. $9,000. 990-7708 or 990-7705.
★ 1988 Ford F-150 XLT, 5.0 liter V-8, automatic, new tires and brakes, $4500. 830-2806 after 5 p.m.
★ 1974 Pontiac GTO. Manual Transmission, a/c, PS, V-8, $6,000. 353-7371
★ 28-foot 1986 Bayliner Contessa cabin cruiser, sleeps six, many extras, $15,000, includes slip fees at Goosepond. 256-772-0562
★ 1992 Lexus LS400, 162.6K miles, $6,900. 534-8483
★ 1998 Ford Mustang GT, 5-speed, all power, CD, 55K miles, $13,750. 722-3432 or 586-7658
★ 1995 Chevy Astro van, eight passenger with many extras, 109K miles. $6,400. 721-2239

Free

★ Riding mower, 12HP, engine needs work, 12 yrs. old, must pick up. 776-0537

Wanted

★ Used propane tank, approximately 150 gallon. 722-9989
★ Treadmill in great condition, prefer the fold up type. 682-5181

Found

★ Bracelet, Bldg. 4200, P110. Call 544-4758 to identify/claim
★ Key, Bldg. 4200 area. Call 544-4758 to identify/claim

To the Marshall family:

My family and I thank each of you for the prayers, the donated leave, the cards and letters, and every other kindness you gave us during my recent illness. Thanks.

— Bogie Gregson, AD22

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